

REMARKS -- TABLE OF CONTENTS

I.	STATUS OF CLAIMS	14
II.	ISSUES TO BE REVIEWED	14
III.	ARGUMENT: ART OF RECORD DOES NOT ESTABLISH <i>PRIMA FACIE</i> CASE OF UNPATENTABILITY IN VIEW OF CITED ART OF RECORD	15
A.	MPEP Standards for Patentability	15
1.	MPEP Standards for Determining Anticipation	16
2.	MPEP Standards for Determining Obviousness	17
a)	Interpreting a Claim at Issue	18
b)	Definition of One or More Prior Art Reference Components Relevant to the Claim at Issue	18
c)	Ascertainment of Differences between Prior Art Reference Components and Claim at Issue; Teaching to Modify and/or Combine Prior Art Reference Components to Remedy Those Differences in Order to Achieve Recitations of Claim at Issue.....	19
B.	Technical Material Cited by Examiner Mulgund ("U.S. Publication No. 2002/016751") Does Not Show or Suggest the Text of Amended Independent Claim 1 as Presented Herein; Notice of Allowance of Same Respectfully Requested	21
1.	Amended Independent Claim 1	21
a)	Technical Material Cited by Examiner Does Not Show or Suggest the Text of at Least Amended Independent Claim 1	22
(1)	Examiner Citations With Regard to Clause [a] of Independent Claim 1	22
2.	Dependent Claims 2-16: Patentable for at Least Reasons of Dependency from Independent Claim 1.	26
C.	Technical Material Cited by Examiner Mulgund ("The Design of an Acquisitional Query Processor for Sensor Networks") Does Not Show or Suggest the Text of Amended Independent Claim 17 as Presented Herein; Notice of Allowance of Same Respectfully Requested.....	27
1.	Amended Independent Claim 17	27
a)	Technical Material Cited by Examiner Does Not Show or Suggest the Text of at Least Amended Independent Claim 17.	27

(1) Examiner Citations With Regard to Clause [a] of Independent Claim 17	28
2. Dependent Claims 18-32: Patentable for at Least Reasons of Dependency from Independent Claim 17	31
D. Technical Material Cited by Examiner Mulgund et. al. ("U.S. Pub. No. 2002/0161751") Does Not Show or Suggest the Text of Amended Independent Claim 33 as Presented Herein; Notice of Allowance of Same Respectfully Requested	31
1. Amended Independent Claim 33	32
a) Technical Material Cited by Examiner Does Not Show or Suggest the Text of at Least Amended Independent Claim 33.	32
(1) Examiner Citations With Regard to Clause [a] of Independent Claim 33	33
E. Technical Material Cited by Examiner Mulgund et. al. ("U.S. Pub. No. 2002/0161751") and Madden ("The Design of an Acquisitional Query Processor for Sensor Networks") Do Not Show or Suggest the Text of Amended Independent Claim 34 as Presented Herein; Notice of Allowance of Same Respectfully Requested	36
1. Amended Independent Claim 34	36
a) Technical Material Cited by Examiner Does Not Show or Suggest the Text of at Least Amended Independent Claim 34.	36
(1) Examiner Citations With Regard to Clause [b] of Independent Claim 34	37
2. Dependent Claims 35-37: Patentable for at Least Reasons of Dependency from Independent Claim 34	43
F. Technical Material Cited by Examiner Mulgund et. al. (U.S. Pub. No. 2002/0161751) and Madden ("The Design of an Acquisitional Query Processor for Sensor Networks") Do Not Show or Suggest the Text of Amended Independent Claim 38 as Presented Herein; Notice of Allowance of Same Respectfully Requested	43
1. Amended Independent Claim 38	43
a) Technical Material Cited by Examiner Does Not Show or Suggest the Text of at Least Amended Independent Claim 38.	44
(1) Examiner Citations With Regard to Clause [a] of Independent Claim 38	44
2. Dependent Claim 39: Patentable for at Least Reasons of Dependency from Independent Claim 38.	49

IV.	Rejection ARGUMENT: THE OFFICE ACTION ERRED IN REJECTING CLAIMS 17-32 UNDER 35 U.S.C. § 112, FIRST PARAGRAPH.....	49
V.	Rejection ARGUMENT: THE OFFICE ACTION ERRED IN REJECTING CLAIMS 33, 34 and 36 UNDER 35 U.S.C. § 112, Second PARAGRAPH.....	50
VI.	Objection to the CLAIMS.....	51
VII.	Objection to the Abstract OF THE DISCLOSURE.....	51
VIII.	Objection to the Application.....	51
IX.	Claims 17-32 RECITE STATUTORILY AUTHORIZED SUBJECT MATTER; NOTICE OF ALLOWANCE OF SAME RESPECTFULLY REQUESTED.....	52
A.	Independent Claim 17-32 Recites Statutorily Authorized Subject Matter; 35 U.S.C. § 101 Non-statutory subject matter rejection is unfounded; Notice of Allowance of Same Respectfully Requested	52
X.	CONCLUSION.....	55

I. STATUS OF CLAIMS

Claims 1-39 were pending for examination at the time of the office action.

Claims 17-32 stand rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. See Examiner's Office action, p. 12 (28 May 2008).

Claims 17-32 stand rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement. See Examiner's Office action, p. 14 (28 May 2008).

Claims 32, 33, 34, and 36 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. See Examiner's Office action, p. 15 (28 May 2008).

Claims 1-4, 7, 8, 10, 11, 13, 17-20, 23-24, 26-27, 29, and 33 stand rejected under 35 U.S.C. § 102(a) as being anticipated by Mulgund et al. (2002/0161751). See Examiner's Office action, p. 16 (28 May 2008).

Claims 5, 6, 21, and 22 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Mulgund et al. (2002/0161751) in view of Chiloyan et al. (U.S. Patent No. 7,165,109). See Examiner's Office action, p. 19 (28 May 2008).

Claims 9, 12, 14, 15, 25, 28, 30, and 31 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Mulgund et al. (2002/0161751) in view of Kung et al. See Examiner's Office action, p. 20-23 (28 May 2008).

Claims 16, 32, and 34-39 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Mulgund et al. (2002/01611651) in view of "The Design of an Acquisitional Query Processor For Sensor Networks" by Samuel Madden et al. See Examiner's Office action, p. 23-26 (28 May 2008).

Claims 1-39 remain pending for examination.

II. ISSUES TO BE REVIEWED

The issues in this response relate to whether the art of record establishes a *prima facie* case of anticipation of Applicant's Claims 1-39, and whether the art of record

establishes a *prima facie* case of unpatentability of Applicant's Claims 1-39. For reasons set forth elsewhere herein, Applicant respectfully asserts that the art of record does not establish a *prima facie* case of anticipation or unpatentability of any pending claim. Accordingly, Applicant respectfully requests that Examiner hold all pending Claims 1-39 allowable for at least the reasons described herein, and issue a Notice of Allowance on same.

III. ARGUMENT: ART OF RECORD DOES NOT ESTABLISH *PRIMA FACIE* CASE OF UNPATENTABILITY IN VIEW OF CITED ART OF RECORD

Applicant respectfully asserts herein that, under the MPEP and legal standards for patentability as set forth below, the art of record does not establish a *prima facie* case of the unpatentability of Applicant's claims at issue. Specifically, Applicant respectfully shows below that the art of record does not recite the text of Applicant's claims at issue, and hence fails to establish a *prima facie* case of unpatentability. Accordingly, Applicant respectfully requests that the Examiner withdraw the rejections and hold all claims to be allowable over the art of record.

A. MPEP Standards for Patentability¹

The MPEP states as follows: "the examiner bears the initial burden, on review of the prior art or on any other ground, of presenting a *prima facie* case of unpatentability. If that burden is met, the burden of coming forward with evidence or argument shifts to the applicant. . . . If examination at the initial stage does not produce a *prima facie* case of unpatentability, then without more the applicant is entitled to grant of the patent." *MPEP* § 2107 (citing *In re Oetiker*, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992)); *In re Glaug*, 283 F.3d 1335, 62 USPQ2d 1151 (Fed. Cir. 2002) ("During patent examination the PTO bears the initial burden of presenting a *prima facie* case of unpatentability. *In re Oetiker*, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992); *In re Piasecki*, 745 F.2d 1468, 1472, 252 U.S.P.Q. 785, 788 (Fed. Cir. 1984). If

¹ Applicant is aware that Examiner is familiar with the MPEP standards. Applicant is merely setting forth the MPEP standards to serve as a framework for Applicant's arguments following and to ensure a complete written record is established. Should Examiner disagree with Applicant's characterization of the MPEP standards, Applicant respectfully requests correction.

the PTO fails to meet this burden, then the applicant is entitled to the patent.”). Accordingly, unless and until an examiner presents evidence establishing *prima facie* unpatentability, an applicant is entitled to a patent on all claims presented for examination.

1. MPEP Standards for Determining Anticipation

An examiner bears the initial burden of factually supporting any *prima facie* conclusion of anticipation. *Ex Parte Skinner*, 2 U.S.P.Q.2d 1788, 1788-89 (B.P.A.I. 1986); *In Re King*, 801 F.2d 1324, 521 U.S.P.Q. (BNA) 136 (Fed. Cir. 1986); *MPEP* § 2107 (citing *In re Oetiker*, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992) (“[T]he examiner bears the initial burden, on review of the prior art or on any other ground, of presenting a *prima facie* case of unpatentability....”). Failure of an examiner to meet this burden entitles an applicant to a patent. *Id.* (“[i]f examination at the initial stage does not produce a *prima facie* case of unpatentability, then without more the applicant is entitled to grant of the patent”).

The MPEP indicates that in order for an examiner to establish a *prima facie* case of anticipation of an applicant’s claim, the examiner must first interpret the claim,² and thereafter show that the cited prior art discloses the same elements, in the same arrangement, as the elements of the claim which the examiner asserts is anticipated. More specifically, the MPEP states that “[a] claim is anticipated *only if each and every element as set forth in the claim is found*, either expressly or inherently described, in a single prior art reference. . . . The identical invention must be shown in as complete detail as is contained in the . . . claim. . . . The elements must be arranged as required by the claim . . .” *MPEP* § 2131 (emphasis added). Consequently, under the guidelines of the MPEP set forth above, if there is *any* substantial difference between the prior art cited by an examiner and an applicant’s claim which the examiner asserts is rendered anticipated by the prior art, the prior art does NOT establish a *prima facie* case of

² With respect to interpreting a claim at issue, the MPEP directs that, during examination -- as opposed to subsequent to issue -- such claim be interpreted as broadly as the claim terms would reasonably allow, in light of the specification, when read by one skilled in the art with which the claimed invention is most closely connected. *MPEP* § 2111.

anticipation and, barring other rejections, the applicant is entitled to a patent on such claim.

2. MPEP Standards for Determining Obviousness

"[T]he examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness."³ *MPEP* § 2142. The MPEP indicates that in order for an examiner to establish a *prima facie* case that an invention, as defined by a claim at issue, is obvious, the examiner must (1) interpret the claim at issue; (2) define one or more prior art reference components relevant to the claim at issue; (3) ascertain the differences between the one or more prior art reference components and the elements of the claim at issue; and (4) adduce objective evidence which establishes, under a preponderance of the evidence standard, a teaching to modify the teachings of the prior art reference components such that the prior art reference components can be used to construct a device substantially equivalent to the claim at issue. This last step generally encompasses two sub-steps: (1) adducement of objective evidence teaching how to modify the prior art components to achieve the individual elements of the claim at issue; and (2) adducement of objective evidence teaching how to combine the modified individual components such that the claim at issue, as a whole, is achieved. *MPEP* § 2141; *MPEP* § 2143. Each of these forgoing elements is further defined within the MPEP. *Id.*

This requirement has been explained recently by the Supreme Court in *KSR v. Teleflex*, 550 U.S. ____; 127 S. Ct. 1727 (2007) which noted that such a rejection requires "some articulated reasoning ... to support the legal conclusion of obviousness." As stated by the Court, obviousness can be established where "there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue. To facilitate review, *this analysis should be made explicit.*" (*emphasis added*) See In re Kahn, 441 F. 3d 977, 988 (CA Fed. 2006) ("[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated

³ An invention, as embodied in the claims, is rendered obvious if an examiner concludes that although the claimed invention is not identically disclosed or described in a reference, the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. *MPEP* § 2141 (citing 35 U.S.C. § 103).

reasoning with some rational underpinning to support the legal conclusion of obviousness.')." *KSR v. Teleflex*, 550 U.S. ____; 127 S. Ct. 1727 at 1741.

As further described by the Court "[A] patent composed of several elements is *not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art*. Although common sense directs one to look with care at a patent application that claims as innovation the combination of two known devices according to their established functions, it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does. This is so because inventions in most, if not all, instances rely upon building blocks long since uncovered, and claimed discoveries almost of necessity will be combinations of what, in some sense, is already known." *KSR v. Teleflex*, 550 U.S. ____; 127 S. Ct. 1727 at 1741.

a) Interpreting a Claim at Issue

With respect to interpreting a claim at issue, the MPEP directs that, during examination -- as opposed to subsequent to issue -- such claim be interpreted as broadly as the claim terms would reasonably allow when read by one skilled in the art with which the claimed invention is most closely connected. In practice, this is achieved by giving each of the terms in the claim the "plain meaning" of the terms as such would be understood by those having ordinary skill in the art, and if portions of the claim have no "plain meaning" within the art, or are ambiguous as used in a claim, then the examiner is to consult the specification for clarification. *MPEP* § 2111.

b) Definition of One or More Prior Art Reference Components Relevant to the Claim at Issue

Once the claim at issue has been properly interpreted, the next step is the definition of one or more prior art reference components (e.g., electrical, mechanical, or other components set forth in a prior art reference) relevant to the properly interpreted claim at issue. With respect to the definition of one or more prior art reference components relevant to the claim at issue, the MPEP defines three proper sources of such

prior art reference components, with the further requirement that each such source must have been extant at the time of invention to be considered relevant. These three sources are as follows: patents as defined by 35 U.S.C. §102, printed publications as defined by 35 U.S.C. §102, and information (*e.g.*, scientific principles) deemed to be "well known in the art"⁴ as defined under 35 U.S.C. §102. *MPEP* § 2141; *MPEP* § 2144.

**c) Ascertainment of Differences between Prior Art
Reference Components and Claim at Issue; Teaching to
Modify and/or Combine Prior Art Reference
Components to Remedy Those Differences in Order to
Achieve Recitations of Claim at Issue**

With one or more prior art components so defined and drawn from the proper prior art sources, the differences between the one or more prior art reference components and the elements of the claim at issue are to be ascertained. Thereafter, in order to establish a case of *prima facie* obviousness, an examiner must set forth a rationale, supported by objective evidence⁵ sufficient to demonstrate under a preponderance of the evidence standard, that in the prior art extant at the time of invention there was a teaching to modify and/or combine the one or more prior art reference components to construct a device practicably equivalent to the claim at issue.

The preferable evidence relied upon is an express teaching to modify/combine within the properly defined objectively verifiable sources of prior art. In the absence of such express teaching, an examiner may attempt to establish a rationale to support a

⁴ The fact that information deemed to be "well known in the art" can serve as a proper source of prior art reference components seems to open the door to subjectivity, but such is not the case. As a remedy to this potential problem, *MPEP* § 2144.03 states that if an examiner asserts that his position is derived from and/or is supported by a teaching or suggestion that is alleged to have been "well known in the art," and that if an applicant traverses such an assertion (that something was "well known within the art"), the examiner must cite a reference in support of his or her position. The same *MPEP* section also states that when a rejection is based on facts within the personal knowledge of an examiner, the data should be stated as specifically as possible, and the facts must be supported, when called for by the applicant, by an affidavit from the examiner. Such an affidavit is subject to contradiction or explanation by the affidavits of the applicant and other persons. *Id.* Thus, all sources of prior art reference components must be objectively verifiable.

⁵ The proper sources of the objective evidence supporting the rationale are the defined proper sources of prior art reference components, discussed above, with the addition of factually similar legal precedent. *MPEP* § 2144.

finding of such teaching reasoned from, or based upon, express teachings taken from the defined proper sources of such evidence (*i.e.*, properly defined objectively verifiable sources of prior art). *MPEP* § 2144; *In re Dembiczak*, 50 U.S.P.Q.2d 1614 (Fed. Cir. 1999).

The MPEP recognizes the pitfalls associated with the tendency to subconsciously use impermissible "hindsight" when an examiner attempts to establish such a rationale. The MPEP has set forth at least two rules to ensure against the likelihood of such impermissible use of hindsight. The first rule is that:

under 35 U.S.C. 103, the examiner must step backward in time and into the shoes worn by the hypothetical "person of ordinary skill in the art" when the invention was unknown and just before it was made. In view of all factual information,⁶ the examiner must then make a determination whether the claimed invention "as a whole" would have been obvious at that time to that person. Knowledge of an Applicant's disclosure must be put aside in reaching this determination, yet kept in mind in order to determine the "differences," conduct the search, and evaluate the "subject matter as a whole" of the invention. The tendency to resort to "hindsight" based upon an Applicant's disclosure is often difficult to avoid due to the very nature of the examination process. However, impermissible hindsight must be avoided and the legal conclusion must be reached on the basis of the facts gleaned from the prior art.

MPEP § 2142 (emphasis added). Thus, if the only objective evidence of such teaching to modify and/or combine prior art reference components is an applicant's disclosure, no evidence of such teaching exists.⁷

The second rule is that if an examiner attempts to rely on some advantage or expected beneficial result that would have been produced by a modification and/or combination of the prior art reference components as evidence to support a rationale to establish such teachings to modify and/or combine prior art reference components, the

⁶ "Factual information" is information actually existing or occurring, as distinguished from mere supposition or opinion. *Black's Law Dictionary* 532 (5th ed. 1979).

⁷ An applicant may argue that an examiner's conclusion of obviousness is based on improper hindsight reasoning. However, "[a]ny judgment on obviousness is in a sense necessarily a reconstruction based on hindsight reasoning, but so long as it takes into account only knowledge which was within the level of ordinary skill in the art at the time the claimed invention was made and does not include knowledge gleaned only from applicant's disclosure, such a reconstruction is proper." *MPEP* § 2145(X)(A) (emphasis added).

MPEP requires that such advantage or expected beneficial result be objectively verifiable teachings present in the acceptable sources of prior art (or drawn from a convincing line of reasoning based on objectively verifiable established scientific principles or teachings). MPEP § 2144. Thus, as a guide to avoid the use of impermissible hindsight, these rules from the MPEP make clear that absent some objective evidence, sufficient to persuade under a preponderance of the evidence standard, no teaching of such modification and/or combination exists.⁸

B. Technical Material Cited by Examiner Mulgund ("U.S. Publication No. 2002/016751") Does Not Show or Suggest the Text of Amended Independent Claim 1 as Presented Herein; Notice of Allowance of Same Respectfully Requested

1. Amended Independent Claim 1

Amended Independent Claim 1 recites:

⁸ *In Re Sang Su Lee* 277 F.3d 1338 (Fed. Cir. 2002) ("When patentability turns on the question of obviousness, the search for and analysis of the prior art includes evidence relevant to the finding of whether there is a teaching, motivation, or suggestion to select and combine the references relied on as evidence of obviousness.") *See, e.g., McGinley v. Franklin Sports, Inc.*, 262 F.3d 1339, 1351-52, 60 U.S.P.Q.2d 1001, 1008 (Fed. Cir. 2001) ("the central question is whether there is reason to combine [the] references," a question of fact drawing on the *Graham* factors). "The factual inquiry whether to combine references must be thorough and searching." *Id.* It must be based on objective evidence of record. This precedent has been reinforced in myriad decisions, and cannot be dispensed with. *See, e.g., Brown & Williamson Tobacco Corp. v. Philip Morris Inc.*, 229 F.3d 1120, 1124-25, 56 U.S.P.Q.2d 1456, 1459 (Fed. Cir. 2000) ("a showing of a suggestion, teaching, or motivation to combine the prior art references is an 'essential component of an obviousness holding'" (quoting *C.R. Bard, Inc., v. M3 Systems, Inc.*, 157 F.3d 1340, 1352, 48 U.S.P.Q.2d 1225, 1522 (Fed. Cir. 1998)); *In re Dembiczak*, 175 F.3d 994, 999, 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999) ("Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references."); *In re Dance*, 160 F.3d 1339, 1343, 48 U.S.P.Q.2d 1635, 1637 (Fed. Cir. 1998) (there must be some motivation, suggestion, or teaching of the desirability of making the specific combination that was made by the applicant); *In re Fine*, 837 F.2d 1071, 1075, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988) ("teachings of references can be combined only if there is some suggestion or incentive to do so.") (emphasis in original) (quoting *ACS Hosp. Sys., Inc. v. Montefiore Hosp.*, 732 F.2d 1572, 1577, 221 U.S.P.Q. 929, 933 (Fed. Cir. 1984)). The need for specificity pervades this authority. *See, e.g., In re Kotzab*, 217 F.3d 1365, 1371, 55 U.S.P.Q.2d 1313, 1317 (Fed. Cir. 2000) ("particular findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed"); *In re Rouffet*, 149 F.3d 1350, 1359, 47 U.S.P.Q.2d 1453, 1457-58 (Fed. Cir. 1998) ("even when the level of skill in the art is high, the Board must identify specifically the principle, known to one of ordinary skill, that suggests the claimed combination. In other words, the Board must explain the reasons one of ordinary skill in the art would have been motivated to select the references and to combine them to render the claimed invention obvious.")).

1. A method comprising:
aggregating at least a part of one or more mote-addressed content indexes from a first set of motes, wherein *at least one mote in the first set of motes comprises a device formed in a substrate having at least two of a semi-autonomous computing functionality, a communication functionality, or a sensing functionality.* (emphasis added)

As shown in the following, the technical material cited by the Examiner does not show or suggest the text of Independent Claim 1. Accordingly, Applicant respectfully requests that Examiner allow Independent Claim 1.

a) Technical Material Cited by Examiner Does Not Show or Suggest the Text of at Least Amended Independent Claim 1.

As set forth above, Independent Claim 1 recites:

1. A method comprising:

[a] aggregating at least a part of one or more mote-addressed content indexes from a first set of motes, wherein *at least one mote in the first set of motes comprises a device formed in a substrate having at least two of a semi-autonomous computing functionality, a communication functionality, or a sensing functionality.*⁹ (Emphases added.)

With respect to Claim 1, Examiner has stated,

“As to claim 1, Mulgund shows

aggregating at least a part of one or more mote-addressed content indexes from a first set of motes (abstract, paragraph [0005] and [0025], Fig. 3, Fig. 4), wherein the terms “node” and “mote” are interpreted to have the same meaning of small embedded platform that has one or more sensors (paragraph [0026]) and therefore these terms are used here interchangeably.”

See Examiner’s *Office Action*, p. 16 (May 28, 2008).

(1) Examiner Citations With Regard to Clause [a] of Independent Claim 1

⁹ The lettering of the clauses herein is merely for sake of clarity of argument and should not be taken to imply any particular ordering of the clauses.

Applicant respectfully points out that Applicant has reviewed the portions of Mulgund identified by Examiner, and so far as Applicant can discern, Mulgund does not recite the text of clause [a] of Applicant's Independent Claim 1. Rather, the portions of Mulgund cited by Examiner recites as follows:

The tools needed to implement the vision of seamless, global access to remote information are available only in part, and not yet as an integrated package. The Applicants describe below the development of an information architecture, which is referred to in certain embodiments as Intelemetric™, and a method of using the architecture which make it possible to aggregate, store, process, and distributed, real-time distributed sensor data into the enterprise, and make resulting information readily available over the Internet.

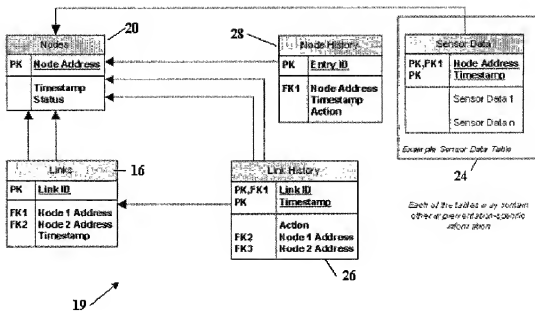
See *Mulgund* (paragraph [0005])

It is of no concern how this network topology came into being, how it is organized, what routing algorithms are used to pass messages from one node to the next, but rather, how to aggregate the information at each of the nodes into an off-network repository or network model database 12. The sensing nodes 2 may be mobile, and the interconnections may change over time. Furthermore, new nodes may join the network 4 at any time, and existing nodes may leave the network unexpectedly.

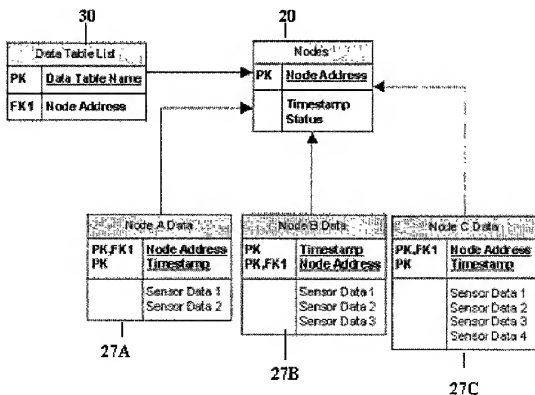
See *Mulgund* (paragraph [0025])

FIG. 2 illustrates the nature of each of the sensing nodes 2, which comprise computational devices (possibly ranging in complexity from small embedded platforms to a fully-fledged PCs) that have one or more sensors 16 providing high-value information connected to it. The term sensor is used here in a general sense. A sensor 16 as contemplated herein could be as simple as an instrument that measures temperature, pressure, or any such other physical quantity. It could also be a device as complex as a video camera providing continuous full-motion imagery of some area of interest. In any case, the output of each of these sensors 16 is stored locally in a well-defined knowledge base 18, but the output can be accessed from outside the network 4 through some software application programming interface (API) and hardware implementation. Each of the sensing nodes 2 is additionally in communication with one or more other sensing nodes through connecting links 3.

See *Mulgund* (paragraph [0026])



See Mulgund (Fig. 3)



See Mulgund (Fig. 4)

As can be seen from the foregoing, the Examiner-identified portions of Mulgund do not recite the text of clause [a] as recited in Independent Claim 1. For example, Mulgund teaches “sensing nodes 2, which comprise computational devices (possibly ranging in complexity from small embedded platforms to a fully-fledged PCs) that have one or more sensors 16 providing high-value information connected to it” (Emphasis added) On the other hand, clause [a] recites “aggregating at least a part of one or more mote-addressed content indexes from a first set of motes, wherein *at least one mote in the first set of motes comprises a device formed in a substrate having at least two of a semi-autonomous computing functionality, a communication functionality, or a sensing functionality.*” (emphasis added). The cited text does not show or recite “*at least one mote in the first set of motes comprises a device formed in a substrate having at least two of a semi-autonomous computing functionality, a communication functionality, or a sensing functionality.*”

Applicant has reviewed the Examiner-cited portions of Mulgund and is unable to locate a recitation of clause [a] of Claim 1. Applicant further respectfully points out that the Examiner has provided no objectively verifiable evidence, or argument based on objectively verifiable evidence, as to why the text of the reference passages should be interpreted to teach clause [a] of amended Independent Claim 1.

Given that Applicant has shown, above, what Mulgund actually recites, the question thus naturally arises as to how Examiner saw Mulgund as “teaching” something related to Clause [a] of Independent Claim 1. Applicant respectfully points out that the Applicant’s Application is the only objectively verifiable examiner-cited document of record that shows or suggests what Examiner purports the reference to teach. From this and the express recitations of Mulgund as set forth, it follows that Examiner is interpreting Mulgund through the lens of Applicant’s application, which is impermissible hindsight use. Thus, at present, Examiner’s assertions regarding Mulgund are untenable. Under the MPEP guidelines as set forth above, the cited art of record fails to establish a prima facie case of unpatentability for at least these reasons. Accordingly, for at least the foregoing reasons, Applicant respectfully requests that Examiner hold Independent Claim 1 allowable and issue a Notice of Allowability of same.

In the alternative and/or in addition to the foregoing, as Examiner has provided no objectively verifiable evidence, nor argument based on objectively verifiable evidence, in support of Examiner assertions regarding what the technical material cited by Examiner “teaches,” Applicant infers that the Examiner is relying on “personal knowledge” and/or is taking “official notice” of one or more factors to reach the factual conclusion of what the cited technical material “teaches.” In view of the foregoing, if Examiner desires to maintain the rejection, in the next communication, Applicant respectfully requests that the Examiner provide an affidavit or declaration setting forth objectively verifiable evidence in support of Examiner’s currently unsupported assertions regarding what the cited technical material “teaches” and/or should be interpreted to “teach.” *See, e.g., MPEP §2144.03(C), If Applicant Challenges a Factual Assertion as Not Properly Officially Notices or Not Properly Based Upon Common Knowledge, the Examiner Must Support the Finding with Adequate Evidence*, and 37 C.F.R. 1.104(d)(2).

In view of the foregoing, and under the MPEP standards as set forth above, Applicant respectfully submits that the Examiner-cited art does not establish a *prima facie* case of unpatentability of Independent Claim 1. Accordingly, for at least the foregoing reasons, Applicant respectfully asks Examiner to hold Independent Claim 1 allowable and to issue a Notice of Allowance of same.

2. Dependent Claims 2-16: Patentable for at Least Reasons of Dependency from Independent Claim 1.

Claims 2-20 depend either directly or indirectly from Independent Claim 1. “A claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers.” *See* 35 U.S.C. §112 paragraph 4. Consequently, Dependent Claims 2-20 are patentable for at least the reasons why Independent Claim 1 is patentable. Accordingly, Applicant respectfully requests that Examiner hold Dependent Claims 2-20 patentable for at least the foregoing reasons, and issue a Notice of Allowance on same.

C. Technical Material Cited by Examiner Mulgund ("The Design of an Acquisitional Query Processor for Sensor Networks") Does Not Show or Suggest the Text of Amended Independent Claim 17 as Presented Herein; Notice of Allowance of Same Respectfully Requested

1. Amended Independent Claim 17

Amended Independent Claim 17 recites:

17. A system comprising:
an aggregating device to aggregate at least a part of one or more mote-addressed content indexes from a first set of motes, wherein *at least one mote in the first set of motes comprises a device formed in a substrate having at least two of a semi-autonomous computing functionality, a communication functionality, or a sensing functionality.* (emphasis added)

As shown in the following, the technical material cited by the Examiner does not show or suggest the text of Independent Claim 17. Accordingly, Applicant respectfully requests that Examiner allow Independent Claim 17.

a) Technical Material Cited by Examiner Does Not Show or Suggest the Text of at Least Amended Independent Claim 17.

As set forth above, Independent Claim 17 recites:

17. A system comprising:
[a] an aggregating device to aggregate at least a part of one or more mote-addressed content indexes from a first set of motes, wherein *at least one mote in the first set of motes comprises a device formed in a substrate having at least two of a semi-autonomous computing functionality, a communication functionality, or a sensing functionality.* (Emphases added.)

With respect to Claim 17, Examiner has stated,

"As to claims 17-20, 23, 24, 26, 27, 29, Mulgund shows all the elements, as discussed above with respect to the corresponding claims 1-4, 7, 8, 10, 11, 13."

See Examiner's Office Action, p. 18 (May 28, 2008).

**(I) Examiner Citations With Regard to Clause [a] of
Independent Claim 17**

Applicant respectfully points out that Applicant has reviewed the portions of *Mulgund* identified by Examiner, and so far as Applicant can discern, *Mulgund* does not recite the text of clause [a] of Applicant's Independent Claim 17. Rather, the portions of *Mulgund* cited by Examiner recites as follows:

The tools needed to implement the vision of seamless, global access to remote information are available only in part, and not yet as an integrated package. The Applicants describe below the development of an information architecture, which is referred to in certain embodiments as *Intelemetric™*, and a method of using the architecture which make it possible to aggregate, store, process, and distributed, real-time distributed sensor data into the enterprise, and make resulting information readily available over the Internet.

See *Mulgund* (paragraph [0005])

It is of no concern how this network topology came into being, how it is organized, what routing algorithms are used to pass messages from one node to the next, but rather, how to aggregate the information at each of the nodes into an off-network repository or network model database 12. The sensing nodes 2 may be mobile, and the interconnections may change over time. Furthermore, new nodes may join the network 4 at any time, and existing nodes may leave the network unexpectedly.

See *Mulgund* (paragraph [0025])

FIG. 2 illustrates the nature of each of the sensing nodes 2, which comprise computational devices (possibly ranging in complexity from small embedded platforms to a fully-fledged PCs) that have one or more sensors 16 providing high-value information connected to it. The term sensor is used here in a general sense. A sensor 16 as contemplated herein could be as simple as an instrument that measures temperature, pressure, or any such other physical quantity. It could also be a device as complex as a video camera providing continuous full-motion imagery of some area of interest. In any case, the output of each of these sensors 16 is stored locally in a well-defined knowledge base 18, but the output can be accessed from outside the network 4 through some software application programming interface (API) and hardware implementation. Each of the sensing nodes 2 is additionally in communication with one or more other sensing nodes through connecting links 3.

See *Mulgund* (paragraph [0026])

Mulgund teaches “sensing nodes 2, which comprise computational devices (possibly ranging in complexity from small embedded platforms to a fully-fledged PCs) that have one or more sensors 16 providing high-value information connected to it.” (Emphasis added) On the other hand, clause [a] recites “an aggregating device to aggregate at least a part of one or more mote-addressed content indexes from a first set of motes, wherein *at least one mote in the first set of motes comprises a device formed in a substrate having at least two of a semi-autonomous computing functionality, a communication functionality, or a sensing functionality.*” (emphasis added). The cited text does not show or recite “*at least one mote in the first set of motes comprises a device formed in a substrate having at least two of a semi-autonomous computing functionality, a communication functionality, or a sensing functionality.*”

Applicant has reviewed the Examiner-cited portions of Madden and is unable to locate a recitation of clause [a] of Claim 17. Applicant further respectfully points out that the Examiner has provided no objectively verifiable evidence, or argument based on objectively verifiable evidence, as to why the text of the reference passages should be interpreted to teach clause [a] of amended Independent Claim 17.

Given that Applicant has shown, above, what Madden actually recites, the question thus naturally arises as to how Examiner saw Madden as “teaching” something related to Clause [a] of Independent Claim 17. Applicant respectfully points out that the Applicant’s Application is the only objectively verifiable examiner-cited document of record that shows or suggests what Examiner purports the reference to teach. From this and the express recitations of Madden as set forth, it follows that Examiner is interpreting Madden through the lens of Applicant’s application, which is impermissible hindsight use. Thus, at present, Examiner’s assertions regarding Madden are untenable. Under the MPEP guidelines as set forth above, the cited art of record fails to establish a prima facie case of unpatentability for at least these reasons. Accordingly, for at least the foregoing reasons, Applicant respectfully requests that Examiner hold Independent Claim 17 allowable and issue a Notice of Allowability of same.

In the alternative and/or in addition to the foregoing, as Examiner has provided no objectively verifiable evidence, nor argument based on objectively verifiable evidence, in support of Examiner assertions regarding what the technical material cited by Examiner

“teaches,” Applicant infers that the Examiner is relying on “personal knowledge” and/or is taking “official notice” of one or more factors to reach the factual conclusion of what the cited technical material “teaches.” In view of the foregoing, if Examiner desires to maintain the rejection, in the next communication, Applicant respectfully requests that the Examiner provide an affidavit or declaration setting forth objectively verifiable evidence in support of Examiner’s currently unsupported assertions regarding what the cited technical material “teaches” and/or should be interpreted to “teach.” *See, e.g.,* MPEP §2144.03(C), *If Applicant Challenges a Factual Assertion as Not Properly Officially Noticed or Not Properly Based Upon Common Knowledge, the Examiner Must Support the Finding with Adequate Evidence*, and 37 C.F.R. 1.104(d)(2).

In view of the foregoing, and under the MPEP standards as set forth above, Applicant respectfully submits that the Examiner-cited art does not establish a *prima facie* case of unpatentability of Independent Claim 17. Accordingly, for at least the foregoing reasons, Applicant respectfully asks Examiner to hold Independent Claim 17 allowable and to issue a Notice of Allowance of same.

2. Dependent Claims 18-32: Patentable for at Least Reasons of Dependency from Independent Claim 17.

Claims 18-32 depend either directly or indirectly from Independent Claim 17. “A claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers.” *See* 35 U.S.C. §112 paragraph 4. Consequently, Dependent Claims 18-32 are patentable for at least the reasons why Independent Claim 17 is patentable. Accordingly, Applicant respectfully requests that Examiner hold Dependent Claims 18-32 patentable for at least the foregoing reasons, and issue a Notice of Allowance on same.

D. Technical Material Cited by Examiner Mulgund et. al. (“U.S. Pub. No. 2002/0161751”) Does Not Show or Suggest the Text of Amended Independent Claim 33 as Presented Herein; Notice of Allowance of Same Respectfully Requested

1. Amended Independent Claim 33

Amended Independent Claim 33 recites:

33. A system comprising:
a mote including a semi-autonomous computing, communication, and sensing device formulated from a substrate;
and
means for aggregating at least a part of one or more mote-addressed content indexes from a first set of motes, said means for aggregating with a reporting entity disposed proximate to said mote. (emphasis added)

As shown in the following, the technical material cited by the Examiner does not show or suggest the text of Independent Claim 33. Accordingly, Applicant respectfully requests that Examiner allow Independent Claim 33.

a) **Technical Material Cited by Examiner Does Not Show or Suggest the Text of at Least Amended Independent Claim 33.**

As set forth above, Independent Claim 33 recites:

33. A system comprising:
[a] *a mote comprising a device formed in a substrate having at least two of a semi-autonomous computing functionality, a communication functionality, or a sensing functionality;* and
[b] means for aggregating at least a part of one or more mote-addressed content indexes from a first set of motes, said means for aggregating with a reporting entity disposed proximate to said mote. (Emphases added.)

With respect to Claim 33, Examiner has stated,

“As to claim 33, Mulgund shows:

- a mote (Fig. 1 node (2)); and
means for aggregating at least a part of one or more mote-addressed content indexes from a first set of motes [sensor network modeling agent (14), Fig. 2], said means for aggregating proximate to said mote (paragraph [0044]).”

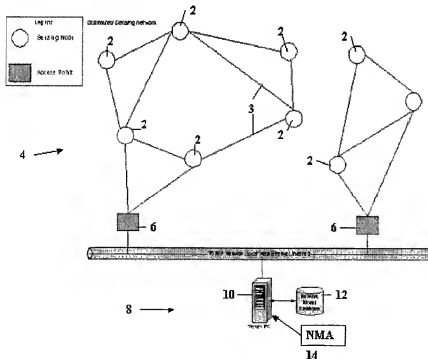
See Examiner’s *Office Action*, p. 18-19 (May 28, 2008).

(I) Examiner Citations With Regard to Clause [a] of Independent Claim 33

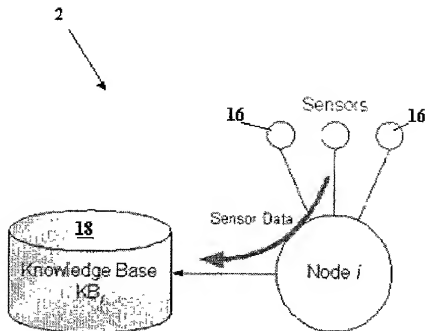
Applicant respectfully points out that Applicant has reviewed the portions of Mulgund identified by Examiner, and so far as Applicant can discern, Mulgund does not recite the text of clause [a] of Applicant's Independent Claim 33. Rather, the portions of Mulgund cited by Examiner recites as follows:

To build the database representation of the sensor network 4 described above, the NMA 14 employs a means to traverse the network in order to interrogate each node. The NMA 14 employs a quasi-recursive algorithm that is run on the database server 10 to build and maintain the database network model. The NMA 14 is a software agent resident on the database server 10 and written in any compatible computer language, whose responsibility is to build and update this model. As discussed earlier, it is assumed that there exists some software API that allows the NMA 14 to access each node on the network, which is reached via one or more access points 6 that can be reached via Internet protocols from the database server 10.

See *Mulgund* (paragraph [0044])



See *Mulgund* (Fig. 1)



See *Mulgund* (Fig. 2)

As can be seen from the foregoing, the Examiner-identified portions of *Mulgund* do not recite the text of clause [a] as recited in Independent Claim 33. For example, *Mulgund* teaches “it is assumed that there exists some software API that allows the NMA 14 to access each node on the network,” (Emphasis added) On the other hand, clause [a] recites “*a mote comprising a device formed in a substrate having at least two of a semi-autonomous computing functionality, a communication functionality, and a sensing functionality*,” (emphasis added). The cited text does not show or recite “*a mote comprising a device formed in a substrate having at least two of a semi-autonomous computing functionality, a communication functionality, or a sensing functionality*.”

Applicant has reviewed the Examiner-cited portions of *Mulgund* and is unable to locate a recitation of clause [a] of Claim 33. Applicant further respectfully points out that the Examiner has provided no objectively verifiable evidence, or argument based on objectively verifiable evidence, as to why the text of the reference passages should be interpreted to teach clause [a] of amended Independent Claim 33.

Given that Applicant has shown, above, what *Mulgund* actually recites, the question thus naturally arises as to how Examiner saw *Mulgund* as “teaching” something related to Clause [a] of Independent Claim 33. Applicant respectfully points out that the Applicant’s Application is the only objectively verifiable examiner-cited document of

record that shows or suggests what Examiner purports the reference to teach. From this and the express recitations of Mulgund as set forth, it follows that Examiner is interpreting Mulgund through the lens of Applicant's application, which is impermissible hindsight use. Thus, at present, Examiner's assertions regarding Mulgund are untenable. Under the MPEP guidelines as set forth above, the cited art of record fails to establish a prima facie case of unpatentability for at least these reasons. Accordingly, for at least the foregoing reasons, Applicant respectfully requests that Examiner hold Independent Claim 33 allowable and issue a Notice of Allowability of same.

In the alternative and/or in addition to the foregoing, as Examiner has provided no objectively verifiable evidence, nor argument based on objectively verifiable evidence, in support of Examiner assertions regarding what the technical material cited by Examiner "teaches," Applicant infers that the Examiner is relying on "personal knowledge" and/or is taking "official notice" of one or more factors to reach the factual conclusion of what the cited technical material "teaches." In view of the foregoing, if Examiner desires to maintain the rejection, in the next communication, Applicant respectfully requests that the Examiner provide an affidavit or declaration setting forth objectively verifiable evidence in support of Examiner's currently unsupported assertions regarding what the cited technical material "teaches" and/or should be interpreted to "teach." See, e.g., MPEP §2144.03(C), *If Applicant Challenges a Factual Assertion as Not Properly Officially Noticed or Not Properly Based Upon Common Knowledge, the Examiner Must Support the Finding with Adequate Evidence*, and 37 C.F.R. 1.104(d)(2).

In view of the foregoing, and under the MPEP standards as set forth above, Applicant respectfully submits that the Examiner-cited art does not establish a *prima facie* case of unpatentability of Independent Claim 33. Accordingly, for at least the foregoing reasons, Applicant respectfully asks Examiner to hold Independent Claim 33 allowable and to issue a Notice of Allowance of same. Technical Material Cited by Examiner Mulgund et. al. (U.S. Pub. No. 2002/0161751) Does Not Show or Suggest the Text of Amended Independent Claim 33 as Presented Herein; Notice of Allowance of Same Respectfully Requested.

- E. **Technical Material Cited by Examiner Mulgund et. al. ("U.S. Pub. No. 2002/0161751") and Madden ("The Design of an Acquisitional Query Processor for Sensor Networks") Do Not Show or Suggest the Text of Amended Independent Claim 34 as Presented Herein; Notice of Allowance of Same Respectfully Requested**

1. Amended Independent Claim 34

Amended Independent Claim 34 recites:

34. A system comprising:
at least one mote comprising a device formed in a substrate having at least two of a semi-autonomous computing functionality, a communication functionality, or a sensing functionality; and
at least one multi-mote index creation agent resident in said at least one mote, said at least one multi-mote index creation agent configured to index at least a part of at least one mote-addressed content index including an index of content of other motes. (emphasis added)

As shown in the following, the technical material cited by the Examiner does not show or suggest the text of Independent Claim 34. Accordingly, Applicant respectfully requests that Examiner allow Independent Claim 34.

a) Technical Material Cited by Examiner Does Not Show or Suggest the Text of at Least Amended Independent Claim 34.

As set forth above, Independent Claim 34 recites:

34. A system comprising:
[a] *at least one mote comprising a device formed in a substrate having at least two of a semi-autonomous computing functionality, a communication functionality, or a sensing functionality; and*
[b] *at least one multi-mote index creation agent resident in said at least one mote, said at least one multi-mote index creation agent configured to index at least a part of at least one mote-addressed content index including an index of content of other motes..* (Emphases added)

With respect to Claim 34, Examiner has stated,

“As to claim 34, Mulgund shows

at least one mote (Fig. 1 node (2)); and

at least one multi-mote index creation agent [sensor network modeling agent (14), Fig. 2], said at least one multi-mote index creation agent configured to index at least a part of at least one mote-addressed content index (Fig. 3 and paragraph [0037]).

Mulgund also shows that each node contains some local memory or other knowledge base for recording sensor output data, which can be retrieved by interrogating the node (paragraph [0030]), which suggests that there exists some agent resident in a mote that collects data from sensors and stores it in the local knowledge base, however, the local agent per se is not explicitly shown.

Madden shows a multi-mote index creation agent resident in a mote comprising a TinyDB, which is a distributed query processor that runs on each of the nodes in a sensor network (section 1 Introduction, paragraph 4).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method of Mulgund by having a multi-mote index creation agent resident in the mote in order to select, join, project, and aggregate data from the sensors (section 1 Introduction, paragraph 4 in Madden).”

See Examiner’s *Office Action*, p. 24-25 (May 28, 2008).

(1) Examiner Citations With Regard to Clause [a] of Independent Claim 34

Applicant respectfully points out that Applicant has reviewed the portions of Mulgund and Madden identified by Examiner, and so far as Applicant can discern, Mulgund and Madden do not recite the text of clause [a] of Applicant’s Independent Claim 34. Rather, the portions of Mulgund and Madden cited by Examiner recites as follows:

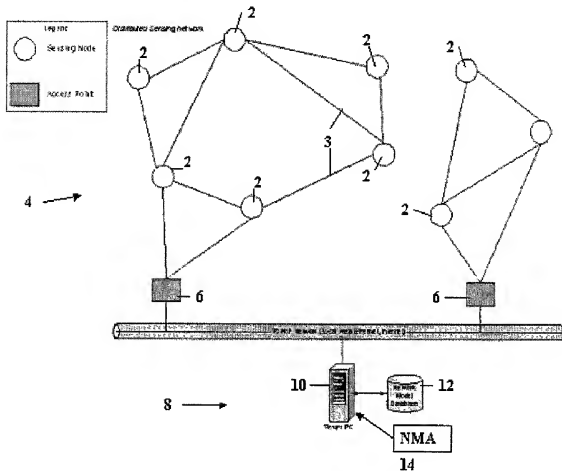
[0030] each node contains some local memory or other knowledge base 18 for recording sensor output data, which can be retrieved by interrogating the node;

See *Mulgund* (paragraph [0030])

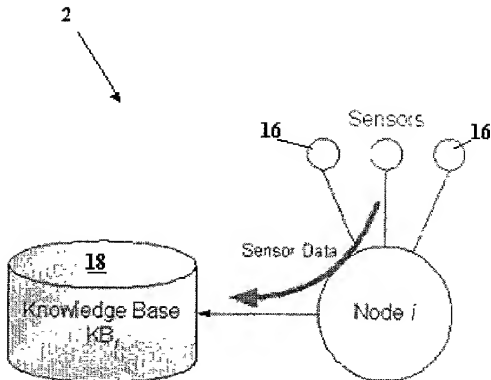
[0037] The Nodes Table 20 maintains a list of all known sensor nodes 2 in the network 4. Each node is identified by a unique Node Address, which is a primary key for the Nodes Table 20. The Nodes Table also contains a Status field, which is used to indicate whether a node is known to be active. This field is used for marking nodes that have disappeared from the network (which could later reappear). At present, it is anticipated that this Status variable will take on one of just a small set of mutually exclusive values that indicate whether or not the associated node continues to be an

active, reachable member of the network 4. Finally, the Nodes Table 20 contains a Timestamp field that indicates when the Status information was last updated. When a node disappears from the network for whatever reason, the corresponding entry in the Nodes Table 20 is not deleted; it is marked as unreachable. The reason for doing so is explained below.

See *Mulgund* (paragraph [0037])



See *Mulgund* (Fig. 1)



See *Mulgund* (Fig. 2)

We have designed and implemented an ACQP engine, called TinyDB (for more information on TinyDB, see [35]), which is a distributed query processor that runs on each of the nodes in a sensor network. TinyDB runs on the Berkeley Mica *mote* platform, on top of the TinyOS [23] operating system. We chose this platform because the hardware is readily available from commercial sources [13] and the operating system is relatively mature. TinyDB has many of the features of a traditional query processor (e.g. the ability to select, join, project, and aggregate data), but, as we will discuss in this paper, also incorporates a number of other features designed to minimize power consumption via acquisitional techniques. These techniques, taken in aggregate, can lead to orders of magnitude improvement in power consumption *and* increased accuracy of query results over non-acquisitional systems that do not actively control when and where data is collected.

See *Madden* (1. Introduction, paragraph 4)

As can be seen from the foregoing, the Examiner-identified portions of *Mulgund* and *Madden* do not recite the text of clause [a] as recited in Independent Claim 34. For example, *Mulgund* teaches “it is assumed that there exists some software API that allows

the NMA 14 to access each node on the network,” (Emphasis added) On the other hand, clause [a] recites *“at least one mote comprising a device formed in a substrate having at least two of a semi-autonomous computing functionality, a communication functionality, or a sensing functionality;”* (emphasis added). The cited text does not show or recite *“at least one mote comprising a device formed in a substrate having at least two of a semi-autonomous computing functionality, a communication functionality, or a sensing functionality.”*

Applicant has reviewed the Examiner-cited portions of Mulgund and is unable to locate a recitation of clause [a] of Claim 34. Applicant further respectfully points out that the Examiner has provided no objectively verifiable evidence, or argument based on objectively verifiable evidence, as to why the text of the reference passages should be interpreted to teach clause [a] of amended Independent Claim 34.

Given that Applicant has shown, above, what Mulgund actually recites, the question thus naturally arises as to how Examiner saw Mulgund as “teaching” something related to Clause [a] of Independent Claim 34. Applicant respectfully points out that the Applicant’s Application is the only objectively verifiable examiner-cited document of record that shows or suggests what Examiner purports the reference to teach. From this and the express recitations of Mulgund as set forth, it follows that Examiner is interpreting Mulgund through the lens of Applicant’s application, which is impermissible hindsight use. Thus, at present, Examiner’s assertions regarding Mulgund are untenable. Under the MPEP guidelines as set forth above, the cited art of record fails to establish a prima facie case of unpatentability for at least these reasons. Accordingly, for at least the foregoing reasons, Applicant respectfully requests that Examiner hold Independent Claim 34 allowable and issue a Notice of Allowability of same.

In the alternative and/or in addition to the foregoing, as Examiner has provided no objectively verifiable evidence, nor argument based on objectively verifiable evidence, in support of Examiner assertions regarding what the technical material cited by Examiner “teaches,” Applicant infers that the Examiner is relying on “personal knowledge” and/or is taking “official notice” of one or more factors to reach the factual conclusion of what the cited technical material “teaches.” In view of the foregoing, if Examiner desires to maintain the rejection, in the next communication, Applicant respectfully requests that

the Examiner provide an affidavit or declaration setting forth objectively verifiable evidence in support of Examiner's currently unsupported assertions regarding what the cited technical material "teaches" and/or should be interpreted to "teach." *See, e.g.,* MPEP §2144.03(C), *If Applicant Challenges a Factual Assertion as Not Properly Officially Noticed or Not Properly Based Upon Common Knowledge, the Examiner Must Support the Finding with Adequate Evidence*, and 37 C.F.R. 1.104(d)(2).

In view of the foregoing, and under the MPEP standards as set forth above, Applicant respectfully submits that the Examiner-cited art does not establish a *prima facie* case of unpatentability of Independent Claim 34. Accordingly, for at least the foregoing reasons, Applicant respectfully asks Examiner to hold Independent Claim 34 allowable and to issue a Notice of Allowance of same. Technical Material Cited by Examiner Mulgund et. al. (U.S. Pub. No. 2002/0161751) Does Not Show or Suggest the Text of Amended Independent Claim 33 as Presented Herein; Notice of Allowance of Same Respectfully Requested.

(2) Examiner Citations With Regard to Clause [b] of Independent Claim 34

In addition, the Examiner-identified portions of Mulgund and Madden do not recite the text of clause [a] as recited in Independent Claim 34. For example, Mulgund teaches "The Nodes Table 20 maintains a list of all known sensor nodes 2 in the network 4." [Mulgund, paragraph 0037] "The LAN 8 is a database server 10 includes a network model database 12 and operates a network modeling agent (NMA) 14. [Mulgund, paragraph 0020] "Fig. 3 presents a candidate relational database logical design 19 for capturing information about the sensor network 4, comprising: a node address for each of the sensing nodes 2 in the network, as shown in a Node Table 20." [Mulgund, paragraph 0035] "Tiny DB is a distributed query processor that runs on a node. On the other hand, clause [b] recites "*at least one multi-mote index creation agent resident in said at least one mote*, said at least one multi-mote index creation agent configured to index at least a part of at least one mote-addressed *content index including an index of content of other motes*." (emphasis added). The cited text does not show or recite "*at least one multi-mote*

index creation agent resident in said at least one mote” or “content index including an index of content of other motes.”

Applicant has reviewed the Examiner-cited portions of Mulgund and Madden and is unable to locate a recitation of clause [b] of Claim 34. Applicant further respectfully points out that the Examiner has provided no objectively verifiable evidence, or argument based on objectively verifiable evidence, as to why the text of the reference passages should be interpreted to teach clause [b] of amended Independent Claim 34.

Given that Applicant has shown, above, what Mulgund and Madden actually recite, the question thus naturally arises as to how Examiner saw Mulgund and Madden as “teaching” something related to Clause [b] of Independent Claim 34. Applicant respectfully points out that the Applicant’s Application is the only objectively verifiable examiner-cited document of record that shows or suggests what Examiner purports the reference to teach. From this and the express recitations of Mulgund and Madden as set forth, it follows that Examiner is interpreting Mulgund and Madden through the lens of Applicant’s application, which is impermissible hindsight use. Thus, at present, Examiner’s assertions regarding Mulgund and Madden are untenable. Under the MPEP guidelines as set forth above, the cited art of record fails to establish a prima facie case of unpatentability for at least these reasons. Accordingly, for at least the foregoing reasons, Applicant respectfully requests that Examiner hold Independent Claim 34 allowable and issue a Notice of Allowability of same.

In the alternative and/or in addition to the foregoing, as Examiner has provided no objectively verifiable evidence, nor argument based on objectively verifiable evidence, in support of Examiner assertions regarding what the technical material cited by Examiner “teaches,” Applicant infers that the Examiner is relying on “personal knowledge” and/or is taking “official notice” of one or more factors to reach the factual conclusion of what the cited technical material “teaches.” In view of the foregoing, if Examiner desires to maintain the rejection, in the next communication, Applicant respectfully requests that the Examiner provide an affidavit or declaration setting forth objectively verifiable evidence in support of Examiner’s currently unsupported assertions regarding what the cited technical material “teaches” and/or should be interpreted to “teach.” *See, e.g., MPEP §2144.03(C), If Applicant Challenges a Factual Assertion as Not Properly*

Officially Notices or Not Properly Based Upon Common Knowledge, the Examiner Must Support the Finding with Adequate Evidence, and 37 C.F.R. 1.104(d)(2).

In view of the foregoing, and under the MPEP standards as set forth above, Applicant respectfully submits that the Examiner-cited art does not establish a *prima facie* case of unpatentability of Independent Claim 34. Accordingly, for at least the foregoing reasons, Applicant respectfully asks Examiner to hold Independent Claim 34 allowable and to issue a Notice of Allowance of same.

2. Dependent Claims 35-37: Patentable for at Least Reasons of Dependency from Independent Claim 34.

Claims 35-37 depend either directly or indirectly from Independent Claim 34. "A claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers." *See* 35 U.S.C. §112 paragraph 4. Consequently, Dependent Claims 35-37 are patentable for at least the reasons why Independent Claim 34 is patentable. Accordingly, Applicant respectfully requests that Examiner hold Dependent Claims 35-37 patentable for at least the foregoing reasons, and issue a Notice of Allowance on same.

F. Technical Material Cited by Examiner Mulgund et. al. (U.S. Pub. No. 2002/0161751) and Madden ("The Design of an Acquisitional Query Processor for Sensor Networks") Do Not Show or Suggest the Text of Amended Independent Claim 38 as Presented Herein; Notice of Allowance of Same Respectfully Requested

1. Amended Independent Claim 38

Amended Independent Claim 38 recites:

38. A system comprising:
a first mote; and
at least one multi-mote registry resident in said first one mote, *said at least one multi-mote registry having one or more indicators of a second mote's content to be indexed.* (emphasis added)

As shown in the following, the technical material cited by the Examiner does not show or suggest the text of Independent Claim 38. Accordingly, Applicant respectfully requests that Examiner allow Independent Claim 38.

a) Technical Material Cited by Examiner Does Not Show or Suggest the Text of at Least Amended Independent Claim 38.

As set forth above, Independent Claim 38 recites:

38. A system comprising:
a first mote;
at least one mote-appropriate device at a second mote; and
[a] at least one multi-mote registry resident in said first one mote, *said at least one multi-mote registry having one or more indicators of a second mote's content to be indexed.* (emphasis added)

With respect to Claim 38, Examiner has stated,

“As to claim 38, Mulgund shows
at least one mote (node (2) in Fig. 1); and
at least one multi-mote registry [Nodes Table (20)], said at least one multi-mote registry having one or more indicators of one or more motes to be indexed (paragraphs [0037], [0061] and [0063], second column (CAL) in table 1).

Mulgund does not show that at least one multi-mote registry is resident in said at least one mote.

Madden shows a multi-mote registry [a short list] resident in a mote (under 2.2 Communication in Sensor Networks, paragraph 2).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method of Mulgund by having a multi-mote registry being resident in the mote in order to keep a list of neighbors who they have heard transmit recently, as well as some routing information about the connectivity of those neighbors (under 2.2 Communication in Sensor Networks, paragraph 2) (similar to information about child nodes in Mulgund, Table 1, second column).

See Examiner's Office Action, p. 26 (May 28, 2008).

(1) Examiner Citations With Regard to Clause [a] of Independent Claim 38

Applicant respectfully points out that Applicant has reviewed the portions of Mulgund and Madden identified by Examiner, and so far as Applicant can discern, Mulgund and Madden does not recite the text of clause [a] of Applicant's Independent Claim 38. Rather, the portions of Mulgund and Madden cited by Examiner recites as follows:

[0037] The Nodes Table 20 maintains a list of all known sensor nodes 2 in the network 4. Each node is identified by a unique Node Address, which is a primary key for the Nodes Table 20. The Nodes Table also contains a Status field, which is used to indicate whether a node is known to be active. This field is used for marking nodes that have disappeared from the network (which could later reappear). At present, it is anticipated that this Status variable will take on one of just a small set of mutually exclusive values that indicate whether or not the associated node continues to be an active, reachable member of the network 4. Finally, the Nodes Table 20 contains a Timestamp field that indicates when the Status information was last updated. When a node disappears from the network for whatever reason, the corresponding entry in the Nodes Table 20 is not deleted; it is marked as unreachable. The reason for doing so is explained below.

See *Mulgund* (paragraph [0037])

[0061] Table 1 provides details of the process by which the network 4 is traversed. The first column of Table 1 shows the node stack maintained by the NMA 14. The second column (CAL) shows the current links from the Node at the top of the stack. The third column (HAL) shows the links that were obtained from the node at the top of the node stack in a previous sweep of the entire network. The fourth column shows the actions performed inside the for-loop of the pseudo-code.

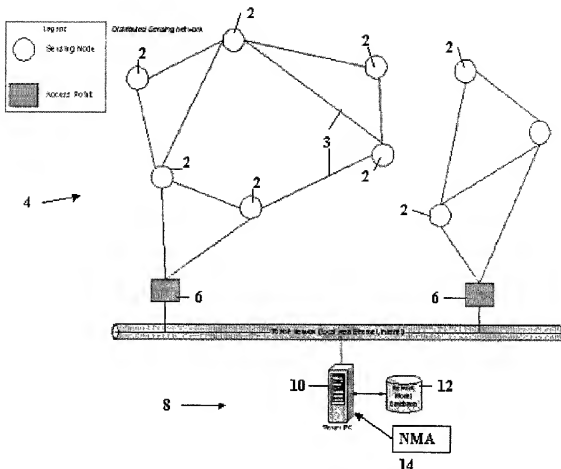
2TABLE 1 Network Traversal Process for Initial Model Construction
Stack S CAL HAL Action Visit order -- -- Visit A, Push A A = 0 A {AB}
{AC} {AB} {AC} Visit B, Push B B = 1 Visit C Push C C = 2 C {CB}
{CA} {CG} {CB} {CA} {CG} Visit G, Push G G = 3 B A G {GC} {GE}
{GF} {GC} {GE} {GF} Visit E, Push E E = 4 C Visit F, Push F F = 5 B A
F {FE} {FG} {FE} {FG} Pop F E G C B A E {EF} {EG} {EB} {ED}
{EF} {EG} {EB} {ED} Visit D, Push D D = 6 G C B A D {DE} {DB}
{DE} {DB} Pop D E G C B A E {EF} {EG} {EB} {ED} {EF} {EG}
{EB} {ED} Pop E G C B A G {GC} {GE} {GF} {GC} {GE} {GF} Pop
G C B A C {CB} {CA} {CG} {CB} {CA} {CG} Pop C B A B {BD}
{BE} {BC} {BD} {BE} {BC} Pop B A A {AB} {AC} {AB} {AC} Pop A
-- -- Check for unreachable nodes. Finish.

See *Mulgund* (paragraph [0061])

[0063] Next, the NMA 14 examines the node at the top of the stack. If the stack is empty, the NMA 14 has completed traversal. If the stack is non-empty, the NMA 14 looks at the node at the top of the stack, and then

queries the node for all its link information. On obtaining this information, the NMA 14 compares it to the link information obtained from the node in the previous sweep of the network. No difference between the CAL and HAL for node A 32 is seen. The NMA 14 then examines each link 3 of the currently visited node and the node at the other end of the link. If the NMA 14 has not seen (marked) the node on the other end of the link before, it visits the node on the other end of the link and pushes it on the stack. The NMA 14 then marks the node as visited by assigning a visit order number to it, and by assigning a Timestamp representing the time it was visited. In our example, CAL consists of links {AB} 33, {AC} 35. Nodes B 34 and C 36 are unmarked. The NMA 14 visits node B 34 and pushes it on the stack. The NMA then visits node C 36 and pushes it on the stack. By following a similar procedure, the NMA visits and marks nodes G 38, E 40, and F 42. When node F 42 is at the top of the stack, there is no node reachable from node F that has not been marked. Therefore, the NMA Pops Node F from the stack. When node E 40 reaches the top of the stack, the NMA discovers another node D 44 which has not been marked. The NMA visits it, and pushes it on the stack. At this point, node D 44 does not have links to any unvisited node. The NMA therefore pops D from the stack. Following the algorithm, the NMA continues to pop nodes E, G, C, B, and A until an empty stack remains. At this point, the NMA checks the Node Table 20 to see if any node that was visited in a previous traversal of the network has become unreachable during this traversal. In this case there are no unreachable nodes. That completes a sweep of the network. The next sweep can now be scheduled.

See *Mulgund* (paragraph [0063])



See *Mulgund* (Fig. 1)

The requirement that sensor networks be low maintenance and easy to deploy means that communication topologies must be automatically discovered (i.e. *ad-hoc*) by the devices rather than fixed at the time of network deployment. Typically, devices keep a short list of neighbors who they have heard transmit recently, as well as some routing information about the connectivity of those neighbors to the rest of the network. To assist in making intelligent routing decisions, nodes associate a link quality with each of their neighbors.

See *Madden* (2.2 Communication in Sensor Networks, Paragraph 2)

As can be seen from the foregoing, the Examiner-identified portions of *Mulgund* and *Madden* do not recite the text of clause [a] as recited in Independent Claim 38. For example, *Mulgund* teaches “Table 20 maintains a list of all known sensor nodes 2.” [*Mulgund* paragraph 0037] *Madden* teaches “Devices keep a short list of neighbors who they have heard transmit recently...” [*Madden* (2.2 Communication in Sensor

Networks, Paragraph 2)]. On the other hand, clause [a] recites “at least one multi-mote registry resident in said first one mote, *said at least one multi-mote registry having one or more indicators of a second mote’s content to be indexed.*” (emphasis added). The cited text does not show or recite “*said at least one multi-mote registry having one or more indicators of a second mote’s content to be indexed.*”

Applicant has reviewed the Examiner-cited portions of Mulgund and Madden and is unable to locate a recitation of clause [a] of Claim 38. Applicant further respectfully points out that the Examiner has provided no objectively verifiable evidence, or argument based on objectively verifiable evidence, as to why the text of the reference passages should be interpreted to teach clause [a] of amended Independent Claim 38.

Given that Applicant has shown, above, what Mulgund and Madden actually recites, the question thus naturally arises as to how Examiner saw Mulgund and Madden as “teaching” something related to Clause [a] of Independent Claim 38. Applicant respectfully points out that the Applicant’s Application is the only objectively verifiable examiner-cited document of record that shows or suggests what Examiner purports the reference to teach. From this and the express recitations of Mulgund and Madden as set forth, it follows that Examiner is interpreting Mulgund and Madden through the lens of Applicant’s application, which is impermissible hindsight use. Thus, at present, Examiner’s assertions regarding Mulgund and Madden are untenable. Under the MPEP guidelines as set forth above, the cited art of record fails to establish a prima facie case of unpatentability for at least these reasons. Accordingly, for at least the foregoing reasons, Applicant respectfully requests that Examiner hold Independent Claim 38 allowable and issue a Notice of Allowability of same.

In the alternative and/or in addition to the foregoing, as Examiner has provided no objectively verifiable evidence, nor argument based on objectively verifiable evidence, in support of Examiner assertions regarding what the technical material cited by Examiner “teaches,” Applicant infers that the Examiner is relying on “personal knowledge” and/or is taking “official notice” of one or more factors to reach the factual conclusion of what the cited technical material “teaches.” In view of the foregoing, if Examiner desires to maintain the rejection, in the next communication, Applicant respectfully requests that the Examiner provide an affidavit or declaration setting forth objectively verifiable

evidence in support of Examiner's currently unsupported assertions regarding what the cited technical material "teaches" and/or should be interpreted to "teach." See, e.g., MPEP §2144.03(C), *If Applicant Challenges a Factual Assertion as Not Properly Officially Notices or Not Properly Based Upon Common Knowledge, the Examiner Must Support the Finding with Adequate Evidence*, and 37 C.F.R. 1.104(d)(2).

In view of the foregoing, and under the MPEP standards as set forth above, Applicant respectfully submits that the Examiner-cited art does not establish a *prima facie* case of unpatentability of Independent Claim 38. Accordingly, for at least the foregoing reasons, Applicant respectfully asks Examiner to hold Independent Claim 38 allowable and to issue a Notice of Allowance of same.

2. Dependent Claim 39: Patentable for at Least Reasons of Dependency from Independent Claim 38.

Claim 39 depends from Independent Claim 38. "A claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers." See 35 U.S.C. §112 paragraph 4. Consequently, Dependent Claim 39 is patentable for at least the reasons why Independent Claim 38 is patentable. Accordingly, Applicant respectfully requests that Examiner hold Dependent Claim 39 patentable for at least the foregoing reasons, and issue a Notice of Allowance on same.

IV. REJECTION ARGUMENT: THE OFFICE ACTION ERRED IN REJECTING CLAIMS 17-32 UNDER 35 U.S.C. § 112, FIRST PARAGRAPH

The Office action, at page 14-15, recites, "Claims 17-32 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement." Applicant respectfully traverses the rejections of claims 17-32.

Amended Claim 17 recites:

17. A system comprising:

an aggregating device to aggregate at least a part of one or more mote-addressed content indexes from a first set of motes, wherein at least one mote in

the first set of motes comprises a device formed in a substrate having at least two of a semi-autonomous computing functionality, a communication functionality, and a sensing functionality.

The Office action at page 14-15, paragraph 12, recites: "As to claim 17, limitation: "means for aggregating" is interpreted to invoke 35 U.S.C. 112, sixth paragraph."

Applicant has amended claim 17 to include delete "means" recitations. Applicant submits that Claim 17 is not to be interpreted to invoke 35 U.S.C. 112, sixth paragraph and the rejection is moot. Therefore, application requests withdrawal of the rejection and reconsideration and allowance of claim 17.

Claims 18-32 are dependent on claim 17. For reasons analogous to those stated above, applicant requests withdrawal of the rejections and reconsideration and allowance of claims 18-32.

V. REJECTION ARGUMENT: THE OFFICE ACTION ERRED IN REJECTING CLAIMS 33, 34 AND 36 UNDER 35 U.S.C. § 112, SECOND PARAGRAPH

The Examiner rejected claims 33, 34 and 36 under 35 USC §112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Specifically the office action states "Claim 33 is ambiguous because it is unclear what is being meant by "proximate to a portion of said mote", which precludes the Examiner from adequately interpreting the words in the claim." Applicant has amended claim 33 by reciting "said means for aggregating with a reporting entity disposed proximate to said mote.." Therefore, Applicant requests withdrawal of the rejections and reconsideration and allowance of claim 33

The office stated "Claim 34 is ambiguous because it is unclear what is being meant by "...configured to index at least a part of at least one mote-addressed content index", which precludes the Examiner from adequately interpreting the words in the claim. Appropriate correction to provide clarity and precision or concise explanation

providing evidence of how "to index ... index" is clear on its face to one of ordinary skill in the art is required." Applicant has amended claim 34 to clarify the alleged ambiguity.

The office stated "As to claim 36, a multi-mote index creation agent is interpreted by the Examiner as a software program, in light of the specification at page 15, lines 9-12. It is unclear how a software program may comprise a processor, which is a hardware component." Applicant has amended claim 36 to clarify the alleged ambiguity.

Applicant respectfully requests reconsideration and withdrawal of this rejection and reconsideration and allowance of claims 33, 34 and 36.

VI. OBJECTION TO THE CLAIMS

The Examiner objected to claim 7 because "As to claim 7, the claim language is unclear". Examiner's *Office Action*, p. 12 (May 28, 2008). Applicant has amended claim to correct the informalities noted by the Examiner. Accordingly, Applicant respectfully requests reconsideration and withdrawal of these objections.

VII. OBJECTION TO THE ABSTRACT OF THE DISCLOSURE

The Examiner objected to the abstract because it does not enable the USPTO and the public generally to determine quickly from a cursory inspection the nature and gist of the technical disclosure. Examiner's *Office Action*, p. 12 (May 28, 2008). Applicant has amended the Abstract to correct the informalities noted by the Examiner. Accordingly, Applicant respectfully requests reconsideration and withdrawal of these objections.

VIII. OBJECTION TO THE APPLICATION

The Examiner objected to the application because it contains disclosure entirely outside the bounds of the claims. Examiner's *Office Action*, p. 12 (May 28, 2008). Applicant respectfully submits that the proper scope of the specification cannot be determined as the prosecution of the application is still pending. Applicant maintains that the scope of the disclosure is in compliance and requests that the office provide statutes,

regulations or sections of the MPEP to support the offices objection. Accordingly, Applicant respectfully requests reconsideration and withdrawal of these objections.

IX. CLAIMS 17-32 RECITE STATUTORILY AUTHORIZED SUBJECT MATTER; NOTICE OF ALLOWANCE OF SAME RESPECTFULLY REQUESTED

A. Independent Claim 17-32 Recites Statutorily Authorized Subject Matter; 35 U.S.C. § 101 Non-statutory subject matter rejection is unfounded; Notice of Allowance of Same Respectfully Requested

Amended Independent Claim 17 recites as follows:

17. A system comprising:
an aggregating device to aggregate at least a part of one or more mote-addressed content indexes from a first set of motes, wherein at least one mote in the first set of motes comprises a device formed in a substrate having at least two of a semi-autonomous computing functionality, a communication functionality, and a sensing functionality. (emphasis added)

With respect to Claim 17, the Examiner has stated:

"Claim 17-32 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 17 incorporates means-plus-function language limitations reciting a function to be performed rather than definite structure or materials for performing that function.

As to claim 17, limitations: "means for determining" and "means for creating" are interpreted to invoke 35 USC 112, sixth paragraph.

The current specification must be reviewed to assist in identifying the corresponding structure that performs the claimed function. The specification shows that aggregating at least a part of one or more mote-addressed content indexes from a first set of motes is performed by a multi-mote index creation agent (502) (page 17 lines 2- 5). Therefore, means for aggregating are interpreted to be a multi-mote index creation agent (502).

Since the multi-mote index creation agent is a computer program, as evidenced by specification at page 15, lines 9-12, a system of a computer software per se is not in one of the statutory categories.

The use of the word "system" does not inherently mean that the claim is directed to a machine. Only if at least one of the claimed elements of the system is a physical part of a device can the system as claimed

constitute part of a device or a combination of devices to be a machine within the meaning of 35 U.S.C. 101.

Evidence is present in the specification that suggests to one of ordinary skill in the art that all claimed elements of the system (means for aggregating) may be reasonably implemented as software programs per se, therefore the claim is rejected as a system of software per se, failing to fall within a statutory category of invention.

As to claims 18-32, additional means-plus-function language does not introduce any tangible elements by further limiting either one of means for determining or means for creating which were identified above as software elements per se. Therefore, additional means fail to render a system of claim 17 statutory under 35 U.S.C. 101."

See Examiner's *Office Action*, page 12-13 (May 18, 2008).

Applicant respectfully traverses the rejection. Claim 17 has been amended to no longer recite a means plus function claim rendering the office's rejection moot.

Further in response to Examiner, Applicant respectfully points out that the Federal Circuit has clearly stated, en banc, that computer programs that execute on processors have been found to be statutory subject matter on the grounds that the programs create a new computer. *In re Alappat*, 33 F.3d 1526, 31 USPQ2d 1545 (Fed.Cir. 1944) (en banc) ("We have held that such programming creates a new machine, because a general purpose computer in effect becomes a special purpose computer once it is programmed to perform particular functions pursuant to instructions from program software."). More specifically, Independent claim 15, the claim at issue in *In re Alappat*, was interpreted to be "means plus function" claim within the ambit of 35 U.S.C. para. 6. In response to the PTO's argument that the claimed invention of *In re Alappat* covered a general purpose computer and was therefore not patentable subject matter, the Federal Circuit reversed the PTO and stated, ". . . a general purpose computer in effect becomes a special purpose computer once it is programmed to perform particular functions pursuant to instructions from program software." The Federal Circuit further stated, ". . . a computer operating pursuant to software may represent patentable subject matter"

Applicants respectfully points out that Applicant's Application recites the following (other examples appear in Applicants Application) text:

The foregoing detailed description has set forth various embodiments of the devices and/or processes via the use of block diagrams, flowcharts, and/or examples. Insofar as such block diagrams, flowcharts, and/or examples contain one or more functions and/or operations, it will be

understood by those within the art that each function and/or operation within such block diagrams, flowcharts, or examples can be implemented, individually and/or collectively, by a wide range of hardware, software, firmware, or virtually any combination thereof. In one embodiment, several portions of the subject matter described herein may be implemented via Application Specific Integrated Circuits (ASICs), Field Programmable Gate Arrays (FPGAs), digital signal processors (DSPs), or other integrated formats. However, those skilled in the art will recognize that some aspects of the embodiments disclosed herein, in whole or in part, can be equivalently implemented in integrated circuits, as one or more computer programs running on one or more computers (e.g., as one or more programs running on one or more computer systems), as one or more programs running on one or more processors (e.g., as one or more programs running on one or more microprocessors), as firmware, or as virtually any combination thereof, and that designing the circuitry and/or writing the code for the software and or firmware would be well within the skill of one of skill in the art in light of this disclosure. In addition, those skilled in the art will appreciate that the mechanisms of the subject matter described herein are capable of being distributed as a program product in a variety of forms, and that an illustrative embodiment of the subject matter described herein applies regardless of the particular type of signal bearing medium used to actually carry out the distribution. Examples of a signal bearing medium include, but are not limited to, the following: a recordable type medium such as a floppy disk, a hard disk drive, a Compact Disc (CD), a Digital Video Disk (DVD), a digital tape, a computer memory, etc.; and a transmission type medium such as a digital and/or an analog communication medium (e.g., a fiber optic cable, a waveguide, a wired communications link, a wireless communication link (e.g., transmitter, receiver, transmission logic, reception logic, etc.), etc.).

...

In a general sense, those skilled in the art will recognize that the various aspects described herein which can be implemented, individually and/or collectively, by a wide range of hardware, software, firmware, and/or any combination thereof can be viewed as being composed of various types of "electrical circuitry." Consequently, as used herein "electrical circuitry" includes, but is not limited to, electrical circuitry having at least one discrete electrical circuit, electrical circuitry having at least one integrated circuit, electrical circuitry having at least one application specific integrated circuit, electrical circuitry forming a general purpose computing device configured by a computer program (e.g., a general purpose computer configured by a computer program which at least partially carries out processes and/or devices described herein, or a microprocessor configured by a computer program which at least partially carries out processes and/or devices described herein), electrical circuitry forming a memory device (e.g., forms of memory (e.g., random access, flash, read only, etc.)), and/or electrical circuitry forming a communications device (e.g., a modem, communications switch, optical-

electrical equipment, etc.). Those having skill in the art will recognize that the subject matter described herein may be implemented in an analog or digital fashion or some combination thereof.

See Applicant's Application, at page 39 and page 40.

Applicant respectfully points out to Examiner that the underlined and highlighted portions of Applicant's Application substantially track the express language of *Alappat* as set forth above. Accordingly, Applicant respectfully submits that Applicant's Claim 17 constitutes patentable subject matter for at least this reason. In light of the foregoing, applicant respectfully requests withdrawal of the rejection and reconsideration and allowance of claim 17.

Claims 18-32 are dependent on claim 17. For reasons analogous to those stated above, applicant requests withdrawal of the rejections and reconsideration and allowance of claims 18-32.

X. CONCLUSION

Applicant may have during the course of prosecution cancelled and/or amended one or more claims. Applicant notes that any such cancellations and/or amendments will have transpired (i) prior to issuance and (ii) in the context of the rules that govern claim interpretation during prosecution before the United States Patent and Trademark Office (USPTO). Applicant notes that the rules that govern claim interpretation during prosecution form a radically different context than the rules that govern claim interpretation subsequent to a patent issuing. Accordingly, Applicant respectfully submits that any cancellations and/or amendments during the course of prosecution should be held to be tangential to and/or unrelated to patentability in the event that such cancellations and/or amendments are viewed in a post-issuance context under post-issuance claim interpretation rules.

Insofar as that the Applicant may have during the course of prosecution cancelled/amended/argued claims sufficient to obtain a Notice of Allowability of all claims pending, Applicant may not have during the course of prosecution explicitly addressed all rejections and/or statements in Examiner's Office Actions. The fact that rejections and/or statements may not be explicitly addressed during the course of

prosecution should NOT be taken as an admission of any sort, and Applicant hereby reserves any and all rights to contest such rejections and/or statements at a later time. Specifically, no waiver (legal, factual, or otherwise), implicit or explicit, is hereby intended (e.g., with respect to any facts of which Examiner took Official Notice, and/or for which Examiner has supplied no objective showing, Applicant hereby contests those facts and requests express documentary proof of such facts at such time at which such facts may become relevant). For example, although not expressly set forth during the course of prosecution, Applicant continues to assert all points of (e.g. caused by, resulting from, responsive to, etc.) any previous Office Action, and no waiver (legal, factual, or otherwise), implicit or explicit, is hereby intended. Specifically, insofar as that Applicant does not consider the cancelled/unamended claims to be unpatentable, Applicant hereby gives notice that it may intend to file and/or has filed a continuing application in order prosecute such cancelled/unamended claims.

With respect to any cancelled claims, such cancelled claims were and continue to be a part of the original and/or present patent application(s). Applicant hereby reserves all rights to present any cancelled claim or claims for examination at a later time in this or another application. Applicant hereby gives public notice that any cancelled claims are still to be considered as present in all related patent application(s) (e.g. the original and/or present patent application) for all appropriate purposes (e.g., written description and/or enablement). Applicant does NOT intend to dedicate the subject matter of any cancelled claims to the public.

The Examiner is invited to contact Dale Barr (360) 627-7147 or Dale R. Cook at (425) 467-2260 with any issues that may advance prosecution of the application on the merits.

Respectfully submitted,

/Dale C. Barr, Reg. No. 40,498/
Dale C. Barr
Registration No. 40,498